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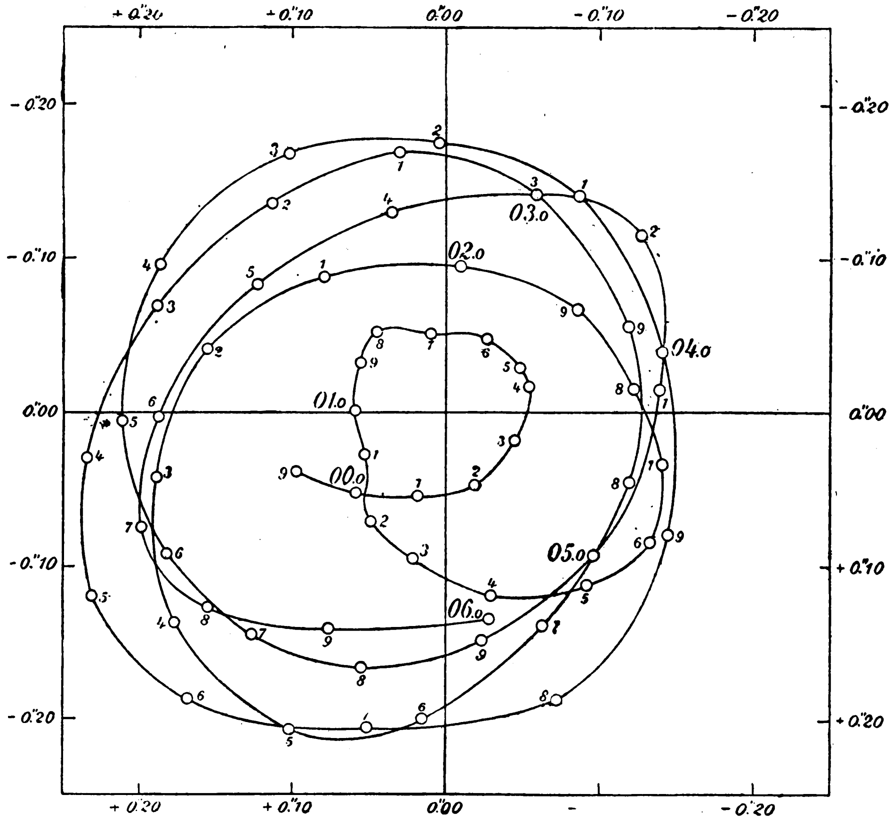
GENERAL NOTES.

Variation of Latitude.—From the annual report of the Central Bureau of the International Geodetic Association, it appears that the number of latitude determinations made at



the various stations established for the purpose of determining the variation of latitude gives a total for 1905 of 11,477, distributed as indicated in the first column of the tabulation given below. The total number of observations made from the time the stations were established, fall of 1899, to the beginning of

1906 is 75,111, distributed as indicated in the second column of the table.

	1905.	Total.
At Mizusawa	1,569	10,033
Tschardjui	1,759	11,044
Carloforte	2,653	19,651
Gaithersburg	1,409	10,787
Cincinnati	1,527	9,565
Ukiah	2,560	14,031

Provisional results for the latitude work of 1905 have been published by Professor ALBRECHT in the *Astronomische Nachrichten* No. 4121. The amplitude of the polar motion continued to decrease during the year. The motion of the Earth's north pole, from 1899.9 to 1906.0, is represented in the accompanying figure taken from the number of the *Nachrichten* mentioned above.

Volume II of the "Resultate des Internationalen Breitendienstes" appeared recently under the authorship of TH. ALBRECHT and B. WANACH. The volume contains all of the observations made at the six latitude stations during the years 1902, 1903, and 1904, together with the definitive results deduced from the observations. It is hoped at no very distant date to give a more extended account of the contents of this volume.

S. D. T.

The Detroit Observatory.—The department of astronomy at the University of Michigan is being reorganized under the direction of Professor W. J. HUSSEY, who was elected to the professorship of astronomy and directorship of the Detroit Observatory last year. The residence of the Director has been enlarged and remodeled, the observatory building changed somewhat, and all the instruments are being overhauled in the observatory instrument-shop. The Regents of the University have also appropriated money for the purchase of a 36-inch reflector, to be used for photographic and spectroscopic work. The glass has been ordered through the well-known opticians, J. A. BRASHEAR & Co., and designs for the mounting of the glass are being prepared.

It is sincerely to be hoped that the authorities of the University of Michigan will succeed in so restoring and developing the department of astronomy that it may again enjoy the prestige gained under the leadership of BRÜNNOW and WATSON.

Motions of the Inner Planets.—At the recent meeting of the Astronomische Gesellschaft held in Jena, a paper was presented by the president, Professor SEELIGER, in which it was shown that certain hitherto unexplained irregularities in the motions of the inner planets might be produced by the perturbation of the cloud of minute particles existing within the orbit of *Mars,* and to which the zodiacal light is supposed to be due. The following table was given, comparing the changes in the longitudes of perihelion, nodes, and inclinations as computed under certain assumptions regarding the distribution and density of the perturbing swarm with those derived by Professor NEWCOMB from observation. The agreement is seen to be in every case well within the probable error of Professor NEWCOMB's determination.

		SEELIGER.	NEWCOMB.	
$e\frac{d\Pi}{dt}$	*Mercury*	+ 8.49	+ 8.48	± 0.43
	Venus	+ 0.05	— 0.05	± 0.25
	Earth	+ 0.09	+ 0.10	± 0.13
	Mars	+ 0.56	+ 0.75	± 0.35
$\sin i\frac{d\Omega}{dt}$	*Mercury*	+ 0.62	+ 0.61	± 0.52
	Venus	+ 0.60	+ 0.60	± 0.17
	Mars	+ 0.21	+ 0.03	± 0.22
$\frac{di}{dt}$	*Mercury*	+ 0.49	+ 0.38	± 0.80
	Venus	+ 0.20	+ 0.38	± 0.33
	Mars	— 0.04	— 0.01	± 0.20

No change in the eccentricities would result from the assumed perturbations. Professor NEWCOMB's values for the observed changes were smaller than their probable errors.

N.

Eros Comparison-Stars.—In the course of an investigation of the observations of stars of reference for the *Eros* campaign, Dr. FRITZ COHN, of Königsberg Observatory, has found evidence of a magnitude equation affecting positions determined photographically. Photographically observed positions from the observatories at Bordeaux, Catania, Greenwich, and Toulouse show no evidence of magnitude equation, but those from the observatories at Helsingfors, Northfield, Paris, and San Fernando show a well-marked tendency in this direction.

The observations of the Algiers Observatory had been discarded on account of large discrepancies depending on magnitude, but it was supposed that the other photographic positions were not affected by this source of error. Mr. COHN finds evidence that the magnitude equation depends upon the hour-angle at which the exposures were made, which further complicates the situation, from the point of view of the *Eros* reductions, and at the same time throws light on possible sources of error to be guarded against in stellar parallax investigations and other photographic determinations of position which call for a high degree of accuracy. N.

The Structure and Evolution of the Stars.—Professor F. W. DYSON, M. A., F. R. S. (Chair of Astronomy), took for the subject of his inaugural address "The Recent Progress of Astronomy." About fifty years ago astronomy seemed to have come to a standstill. The great investigations of the law of gravitation as explaining the movements of the planets were in the main completed. Observational astronomy did not seem likely to make new discoveries commensurate with those of HERSCHEL.

The new physical methods of spectrum analysis and photography have now opened new avenues of research, and the lapse of time has made evident movements of the distant fixed stars which were very imperfectly known fifty years ago. A brief résumé was given of four typical lines of modern research—Mr. HILL'S Researches on the Theory of the Moon, the Variation of Latitude, Solar Physics, the Present Problems of Sidereal Astronomy. Referring to the discovery of helium in the great nebula of *Orion* by Dr. COPELAND, his predecessor in the Chair of Astronomy, Professor DYSON explained that quite recently new importance had been given to this discovery. Helium was produced by the disintegration of earlier molecular forms, and the question propounded by Miss CLERKE, "Where do the nebulæ get their helium from?" suggested that nebulæ were expelled from stars, and were not the basis from which stars were formed. Astronomical research into the structure and evolution of the stars was of equal interest with the physical research into the structure and evolution of the atom.—*Taken from the Scotsman.*